

Friction

What are some types of friction? DRAG (AIR RESISTANCE), STATIC, SURFACE

In lesson six we looked at sliding friction which occurs when two objects in contact rub against each other. We examined the impact of surface type, weight, and surface area.

What conclusions did we draw?

Surface type

GREATEST IMPACT

Weight

2ND

Surface area

LITTEST IMPACT

When someone is skydiving what two forces are at work?

AIR FRICTION (DRAG) & GRAVITY

What is one example of how friction helps a rock climber?

SHOES

Work and Power

What is the formula for work?

$$\text{FORCE (N)} \times \text{DISTANCE (M)} = \text{WORK (N-M)}$$

$$FD = W$$

Is holding up a barbell that weighs 50 pounds considered work?

NO

What is the formula for power?

$$\frac{\text{FORCE} \times \text{DISTANCE}}{\text{TIME}} \quad \text{OR} \quad \frac{\text{WORK}}{\text{TIME}}$$

A blue construction crane lifts a load 50 feet in the air in 10 seconds and a red crane lifts the same load in 10 minutes. Which crane did more work? Which crane has more power?

Name _____

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Energy is the ability to do work. Energy comes in many forms and can change from one form to another. How does a battery change forms of energy when used to turn on a lightbulb?

A force is a PUSH or PULL on or by an object.

A NEWTON is a metric unit of force.

Elastic Force

Examples – BUNGEE JUMPING, RUBBER BANDS

Based on inquiry 5.1 we learned that elastic force is... DIRECTLY PROPORTIONAL OR THE MORE YOU PULL THE GREATER THE FORCE.

Forces

Gravitational force is a force of attraction between two bodies, even though the bodies are not touching. It is dependent on the mass and distance between the objects.

The greater the MASS of an object the greater the force of gravity.

WEIGHT is a measure of the gravitational force and can change depending on your location.

MASS is the amount of matter in an object and does not change when you change locations.

Bungee jumping is a sport that applies what two types of force? GRAVITY & ELASTIC

Isaac Newton and Robert Hooke are considered two of the greatest scientists of the 17th century.

Newton discovered the nature of GRAVITY.

Hooke discovered the nature of ELASTIC.